REMARKS

The Office Action dated January 11, 2005 has been reviewed and carefully considered. Claims 4-12 have been added. Claims 1-12 are pending, the independent claims being 1-3 and 8. Claim 2 has been amended. Reconsideration of the above-identified application, as amended and in view of the following remarks, is respectfully requested.

Claims 1-3 stand rejected under 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 6,108,039 to Linzer et al. ("Linzer") in view of U.S. Patent No. 5,818,969 to Astle.

As to claim 1, Linzer fails to disclose or suggest determining a "motion vector candidate" of a macroblock by using "motion information" generated for any other macroblock, let alone a "previously-processed block."

To the best of the applicant's understanding, the second full paragraph of page 4 of the Office Action acknowledges this and other Linzer failings set forth in more detail in the just-prior appeal brief.

The Office Action suggests that Astle makes up the difference, and cites lines 1-50 of column 10 in Astle. The applicant traverses this suggestion by the Office Action.

The passage in Astle cited by the Office Action relates to estimating a motion vector from an immediately previous frame and previous areas in the current frame, but Astle performs the estimation as a tradeoff for determining a better starting motion vector (col. 9, lines 25-28; 31-32: "best motion vector").

A price paid in the tradeoff is a considerable amount of processing overhead in performing the estimation (Astle, col. 10, lines 1-50), and the loss of rigor that an exhaustive search would afford (Linzer col. 5, lines 34-40).

Linzer teaches away from such a tradeoff. For each Linzer to-be-encoded macroblock, the starting position of the search involves no motion vector (col. 10, lines 39-41; col. 16, lines 23-25). Linzer leverages the memory access efficiency (col. 3, line 33: "memory access efficiency") of an exhaustive search by searching in an image of reduced resolution, i.e., reduced pixel count. Linzer does this in multiple stages to optimize a motion vector, such that a smaller search window can be utilized in a subsequent search of the original, or full resolution, image, while retaining the vigor of exhaustive search.

The Office Action appears to be suggesting that it would have been obvious to modify the Linzer starting position so that it is calculated from an Astle motion vector, but such a modification would merely back in the overhead Linzer has chosen to eliminate and relinquish the rigor Linzer enjoys from exhaustive search (Linzer, col. 3, lines 54-58).

Since Linzer teaches away from the modification proposed by the Office Action, and since the applicant is unable to find any motivation, the applicant submits that motivation is lacking and that the proposed Linzer/Astle combination would not have been obvious for at least this reason.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claim 3 is an apparatus claim based on claim 1, and is likewise deemed patentable for at least the same reasons set forth above with regard to claim 1.

Claim 2 recites, "A recursive motion vector estimation method, comprising the steps of: a) generating (E), for a block, a plurality of candidate vectors from stored vectors (PV); . . .; e) storing (MEM) the output vector (d^2) as one of the stored vectors for possible use in said generating for a next block."

Support for the amendment of claim 2 is found in the specification (e.g., page 5, lines 16-22; page 9, lines 8-10).

Claim 2 is deemed to distinguish patentably over Linzer/Astle for at least the same reasons set forth above with regard to claim 1.

New claims 4 and 9 recite the subject matter of original claim 2.

New claims 5 and 10 find support in the specification (e.g., page 4, lines 10-11; page 6, lines 8-12; page 9, lines 8-10) and claim 1.

New claims 6, 7, 11 and 12 find support in the specification (e.g., page 9, lines 21-24).

New claim 8 is a device claim derived from claim 2 and finds support in original claim 3.

A check for $200.00 is enclosed in payment of the fee for adding one independent claim in excess of three.

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

Respectfully submitted,

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